

MEDICAL SCHOOL
OF THE
UNIVERSITY OF LONDON.
1828.

ADVERTISEMENT.

THE Medical Professors of the University of London having had many applications made to them for copies of the Brief Outlines of their several Courses, published by the Council of the University in their Second Statement,—have printed this separate edition of Outlines of the Medical Lectures, and of those Courses of Science the study of which is intimately connected with that of Medicine.

In presenting these Outlines to their Professional Brethren, they consider it unnecessary for them to state, that they are not to be viewed as full Syllabuses of the Medical Lectures to be delivered in the University of London. They are mere sketches of the plans to be pursued by the several Professors in conducting their particular departments. But as the proposed Courses of Study are much fuller than those which have hitherto been delivered, and as there is some novelty in the arrangement and mode of treating the different subjects,—this publication will, probably, be perused with interest by the Medical Student.

The Medical Lectures will commence on Wednesday the First of October, at 3 o'clock in the afternoon; and the Introductory Discourses will be delivered, at the same hour each day, in the following order, until the whole be given:

Wednesday	. . .	CHARLES BELL, Esq.
Thursday	. . .	Dr. CONOLLY.
Friday	. . .	Dr. DAVIS.
Saturday	. . .	GRANVILLE SHARP PATTISON, Esq.
Monday	. . .	Dr. THOMSON.
Tuesday	. . .	Dr. WATSON.

The regular business of the Session will then commence, and the different Lectures be delivered at the hours to be afterwards specified.

The Lectures on CHEMISTRY, on COMPARATIVE ANATOMY and ZOOLOGY, and on NATURAL PHILOSOPHY, will commence the First Week in November; and those on BOTANY on the First of May next.

The Building of the University is now open to the inspection of the public; but, as it will be impossible to have the Museum of Anatomy arranged before the Twentieth of September, the Medical Professors would recommend to their Professional Friends and the Medical Students to postpone their visits until after that date.

University of London, August 20, 1828.

UNIVERSITY OF LONDON.

ANATOMY AND OPERATIVE SURGERY.

PROFESSOR,

GRANVILLE SHARP PATTISON, Esq.

Every day, (except Saturday,) from Two to Half-past Three.

FIRST COURSE { About 120 hours of } Fee £4.
SECOND COURSE { instruction each, } £3.

The Professor of Anatomy will deliver Two Courses of Lectures during the Academical Session. The following is a short Sketch of the Plan which he proposes to adopt in conducting the anatomical department.

FIRST COURSE.

As a considerable proportion of the members of every class will have just commenced the study of Anatomy, it will be the object of the Professor in the First Course, to confine his observations, in a great measure, to an accurate and precise exposition of the Structure of the Human Body. —The order which will be adopted in the demonstration, is the following. The bones which compose the skull will be separately described. When the students have acquired a correct knowledge of the *processes* of the bones and their *foramina*, they will be shown in connection, and the skull as a whole, demonstrated:—a short description of the Brain will then be given. The object in view, in giving an exhibition of the Brain, at this early period of the Course, is, for the purpose of impressing the importance of the Osteological information, they have just received, on the minds of the pupils, by showing them the nerves, &c. &c. passing through the *cranial foramina*. When a student who is just entering on his studies, hears his teacher describe with the greatest minuteness a small *process* of bone or a little *foramen*, he is at a loss to understand, how that, which to him appears so unimportant, should constitute an essential piece of information. But, when the osteological demonstration of a part is immediately followed by the description of the soft parts which are connected with it, the relation which the one bears to the other, has the effect of proving the importance of that, which viewed separately, appeared of little consequence, and of fixing it on the memory. So satisfied is the Professor of Anatomy of the truth of this observation, that he has been in the habit, for many years, of combining the demonstrations of the Bones, Muscles, and Ligaments with each other. Thus, instead of describing the whole of the Bones of the Skeleton before the Muscles and Joints are noticed, he has demonstrated the Bones, Muscles, and Ligaments of every part in connection. In accordance with this plan, the Bones of the Skull having been described, the Muscles and Ligaments which belong to it will be explained. The Bones of the Trunk will next be shown, and the description of these will be followed by an exhibition of the Muscles and Ligaments which are situated on that part of the Body. The Bones, Muscles, and Ligaments of the Superior, and Inferior Extremities, will form the last division of this part of the Course.

The VASCULAR SYSTEM, which includes the Anatomy of the Arteries, Veins, and Absorbent

Vessels, will form the next division of the Course. A minute and accurate acquaintance with the course and distribution of the arteries, is, of all his knowledge, that which is of most value to the surgeon. But to render it so, it is essential for him, not only to be made acquainted with the situation of these vessels, but to become accurately informed as to the connections they form with the neighbouring parts. For the purpose of conveying this information to the pupils, the Professor intends, even in his first Course, to show the Arteries, in connection with the Veins, Nerves, Muscles, &c.; and in the second, as will be afterwards mentioned, the relations they bear to each other, will be very fully demonstrated. After the Arteries shall have been described, the Veins and Absorbents will be shown.

The Anatomy of the Nerves will form the third division of this course. But as a general view of the Brain will have been given at an earlier period, the Professor will confine himself at this time to a demonstration of the Course and Distribution of the Nerves.

The Fourth Division of the Course, will include the anatomy of the Organs of CIRCULATION, RESPIRATION, NUTRITION, EXCRETION and GENERATION. In treating of these subjects in the First Course, the Professor will confine his observations almost exclusively to the demonstration of their Anatomical Structures. In the concluding part of this Course, the Professor will give a short description of the Anatomy of the Organs of Sense.

SECOND COURSE.

Upon an attentive review of the Plan of the First Course, it will be observed that the leading object of the Professor was to convey to the pupils an accurate knowledge of the DESCRIPTIVE ANATOMY of the HUMAN BODY. Having prepared their minds by this elementary information, for the comprehension of the higher departments of the Science, the following plan will be pursued in the SECOND.

I. OSTEOLOGY.

This department will be introduced by a series of Lectures on the Physiological Anatomy of the Bones, or as it is called by the French "*L'Anatomie Generale*." These will include inquiries into the Structure, Growth, and the Chemical, Physical, and Vital properties of the Bones, &c. &c. In a word, all the *General* facts connected with their history will be examined, and their phænomena explained. After these General Lectures, the Bones of the Skeleton will be again demonstrated; but, as it will be taken for granted that the pupils will have become pretty familiar with their DESCRIPTIVE ANATOMY during the former Course, this will now be only touched on very generally, except where the Osteological information is of great practical importance. Whenever this is the case with any part of any System of Structure, the demonstration will be gone over again with the utmost attention. The MORBID ANATOMY of the Bones will form an interesting part of this Course, and the changes produced in their structures either from disease or accident, will be shown. The Anatomy of the Osteological system will be concluded by an examination of the formation of the Skeleton and

a whole, and an explanation of the admirable adaptation of the several parts, to the performance of their different actions.

II. MYOLOGY, AND THE ANATOMY OF THE JOINTS.

The Muscular System, will, like the Osteological, be introduced by General Lectures. In these, the subjects of Muscular Motion, Irritability, Contractility, &c. &c. will be shortly investigated. The Physiological Lectures on the Muscles will be followed by General Lectures on the Articulations. The varieties of Joints, the varieties of Movements which they execute, the nature of Ligaments, &c. &c. will be generally explained. In the demonstration of the muscles in the SECOND Course, the attention of the student will be principally directed to those muscles, the knowledge of which is of the first importance to the Surgeon in the treatment of the accidents of Dislocations and Fractures, and to the changes produced in the structure of the Muscular System from disease. Lectures on the movements of the Body as a whole, and the dependence of the several parts on each other in the execution of these motions, will finish this department of the Course.

III. VASCULAR SYSTEM.

Lectures on the Circulation of the Blood in man and in other animals, and inquiries into the minute Anatomy of the Vascular Tubes, will introduce to the attention of the Students this department. It will be the great object of the Professor in demonstrating the arteries in the SECOND COURSE, to teach SURGICAL ANATOMY. Whenever, therefore, an artery which is connected with any surgical operation comes to be described, its connection and relation to the neighbouring parts will be most minutely exhibited and explained; and to enable the students to form the most correct idea of these, the vessel will not only be shown as prepared for class demonstration, fully dissected; but the Professor will himself, in the presence of the pupils, cut down on the same vessel in another subject, and make the dissection before them. This division of the Course will include demonstrations of the Surgical Anatomy of the parts concerned in the operations for HERNIA, LITHOTOMY, varieties of ANEURISMS, &c. &c. The course of the Lymphatics, as explanatory of the absorption of Morbid Poisons, will be carefully examined. The morbid Anatomy of the Blood-vessels will conclude the consideration of the Vascular System.

IV. NEUROLOGY.

This, like the other Systems, will be introduced by General Lectures. In these, the nature of Nervous Influence and Action will be shortly inquired into, and the division of the nerves into those of ANIMAL and ORGANIC LIFE explained. The Anatomy of the Brain and Spinal Cord, with their Membranes, will be minutely demonstrated, both according to the plan of Willis, and likewise after the method pursued by Drs. Gall and Spurzheim. The distribution of the nerves over every part of the body will then be shown. As their Surgical Anatomy will have been already given along with that of the arteries, the great object at this time, will be to teach the students the connection they form with each other, and with distant parts. This knowledge is of great importance to the Medical Practitioner,

as it is only from such information that he is enabled to account for the various symptoms which manifest themselves in disease.

V. THE ORGANS OF CIRCULATION, RESPIRATION, NUTRITION, EXCRETION, AND GENERATION.

The lectures of the First Course having been chiefly confined to the DESCRIPTIVE ANATOMY of these organs,—in the Second, their General Physiology will be considered, and the changes produced in their structures by disease will be minutely detailed.

VI. THE ORGANS OF SENSE.

As the Anatomy of the Organs of Sense will have been only shortly considered in the First Course, the General, Descriptive, and Morbid Anatomy, of the Eye, the Ear, and the organs of Smell, Taste, and Touch, will at this time be minutely demonstrated and explained.

The Professor would beg leave to observe, that although he proposes to combine Physiological Observations with his Anatomical Demonstrations, it is not his intention to enter fully into the investigation of Physiological Science. He will merely explain this, in so far as it is immediately connected with Anatomy, and as it tends to its illustration. The Morbid Anatomy of the different parts of the body will be illustrated by the exhibition of preparations, and coloured drawings; and when possible, by the recent morbid parts.

The Professor will combine with his Lectures on Anatomy a complete Course of OPERATIVE SURGERY. From experience, he is convinced that this is by far the best mode of treating the subject. The minds of the students are prepared, by the demonstration of the surgical anatomy of a part, to understand the different steps of an operation, and to estimate the superiority of this or the other method of operating. It would extend this sketch beyond the prescribed limit, were the Professor to give a detailed account of the manner in which he will teach the Operations of Surgery. He will merely observe, that with Osteology, he will give the Operations for injuries of the Head. With Myology, the treatment of the accidents of Dislocations and Fractures, and the application of splints, bandages, &c. &c. With the anatomy of the Blood-vessels will be combined all the operations for Aneurisms, &c. With the nerves, those operations which have been performed for the Tic-douloureux will be shown. With the viscera, the operations for Hernia, and Lithotomy, &c. &c. will be given. And with the anatomy of the Eye there will be delivered a complete Course of Lectures on Operative Ophthalmic Surgery.

PHYSIOLOGY.

PROFESSOR,
CHARLES BELL, Esq., F.R.S., Professor
to the Royal College of Surgeons,
Monday, Wednesday, and Friday, from Eleven
to Twelve.

FIRST COURSE { About 50 hours of } Fee £3.
SECOND COURSE { instruction each, } £2.

PHYSIOLOGY informs us what are the conditions of the body and of the mind necessary to health;

it explains the structure and formation of the animal frame, its organization and mechanism, but more particularly its vital endowments. It is important in its relation to medicine and surgery, since it is the ground of all rational theory; to the general student it is useful, by enlarging the sphere of his observation and increasing his means of illustration, either for the purposes of science or of eloquence. Although Physiology be founded on a knowledge of human and comparative Anatomy, it requires much aid from the other sciences; as Chemistry, Mechanics, Hydraulics, and from moral as well as natural philosophy. But the laws drawn from these sciences must be modified by the consideration of the living principle. It is the study of *life* which constitutes Physiology a distinct science.

Although it be peculiar, in as far as regards the living solids and fluids, the improvement of Physiology will in a great measure depend on the cultivation of the other sciences; so that it is pursued with most advantage when general science as well as medical studies are encouraged. The Professor of Physiology looks for the aid of the other Professors of the University, anticipating much advantage to himself and to those who study with him.

Notwithstanding that a course of Lectures on Physiology embraces very many subjects of great interest, yet the ingenious student must be directed to new objects of inquiry.

It will afford the Professor much gratification to complete the system of English Physiology, tracing it through the opinions of Boerhaave, Haller, Cullen, Whytt, Monro, and Dr. William Hunter, until the important facts announced by John Hunter crown the labours of the English School. These were men of vigorous sense; they possessed extensive influence in their time, and a corresponding superiority is shown in their writings. Along with them, and sometimes to be contrasted with them as holding opposite opinions, there is a splendid list of Continental authorities, of the last, and of the present age. It will be a gratifying labour to expound their doctrines, and a very necessary one occasionally to render justice to men of great merit, whose discoveries have been obscured, because not illustrated by the eloquence which has made false hypotheses popular for a time.

The organs of the animal œconomy bear such relation to each other, and their functions are so connected, that they form a circle which offers no point for a natural commencement. As we cannot at once break in upon that circle, so as to comprehend the minute structure and function of any one part, we must commence by a general but complete view of the œconomy of the animal body.

Two Courses will be given. The first will be more elementary. In the second, the same arrangement and the same subjects will be followed out more in detail.

Introductory Lectures. A view of the Animal Œconomy.—Design shown in the Mechanical Structure.—The subject pursued by examination of the Sensibilities of the body—Pleasure and Pain.—The history of Physiological Opinions, and the Causes which have retarded improvement.

I. Commencement of the Course. Discoveries of Haller.—Mr. J. Hunter; his character and peculiar opinions.—*Life* in respect to the

component parts—in respect to the whole animal.—The Fluids as well as Solids distinguishable from dead matter.—Division of the Material according to its vital properties.—Incessant revolution of the human frame.—The changes traced from the embryo to extreme age.—Health.—Influence of disease on the mind.—Temperaments.—Of the Cellular Texture; Membrane; their Continuity; Fibre.—Haller; Wm. Hunter.—Tissues; distinction of membranes; English and French Schools.—Tendons; Ligaments; Joints; Disease the great Experimenter.—Influence of Exercise on Structure.

II. Secretion and Absorption; revolutions in the Material of the body exemplified in *Bone*.—Of Cartilage; generation of bone; Structure; Re-union; Rickets and Mollities Ossium; Colouring of the earth of bone.—Exfoliation; Necrosis; Tumor; Distortion.—Review of the Skeleton.—Comparative Anatomy of it.—Development of the Skull; national and individual peculiarities.—Form of the Head and Face; Facial line; peculiarity of the Antique.

III. *Of the Muscles*.—Structure of the Fibre; hypothesis of their contraction; their vital properties;—Contraction and relaxation; classification; voluntary and involuntary muscles—their degree of dependence on the Brain; varieties in their form and application.—Muscles mechanically considered; Oblique Fibre; Velocity of action how obtained; diseased action.—Review of the Skeleton and muscles together, —standing, walking, leaping, &c. Structure and action of the foot of the horse and other animals.—Position of the body in reference to the Viscera, and to the symptoms of disease.

IV. *Of the Nervous System*.—History of opinions.—Comparative view of the Nervous System.—Comparative anatomy of the Brain; distinctions and arrangements of its parts; relative importance of its parts, and experiments of Haller, &c.—Effects of injuries.—Internal senses;—sleep; comatose diseases; dreaming; somnambulism; instinct; derangement; craniology.—Constitution of the Spinal Marrow.—Of a Nerve:—Its structure; Theories in explanation of its powers. Inflammation of the Membranes; Neuralgia and Tic-douloureux; pain, and partial paralysis from visceral irritation.

V. Natural arrangement of the Nerves;—Three distinct systems. Of the Sympathetic and Constitutional system; discovery of Nerves of Sensation—of Motion.—Nerves of the Face:—Distinction of the Nerves, and remarkable phænomena in disease, and in experiments;—cases in illustration. *Of the Respiratory System of Nerves*.—Injuries to the Spinal Marrow.—Distinction in Spasmodic and Paralytic affections.—Of the Passions:—Expression in the body; phænomena at birth; in death.—Expressions in the Face; direct and circuitous influence of the Mind on the Frame; relation of the Body to the development of the Passions.—Of the Nervous Circle.—Combination of Nerves and Muscles of the *Hand*; Touch, the Geometrical Sense. Qualities of bodies ascertained by this Sense, and referred to the Eye.—Of the Sense of Muscular motion.

VI. *Of the Eye*. Properties of Light:—Anatomy; Humours; Comparison with Optical Instruments; Achromatic; Short-sightedness; Retina; Seat of Vision; Spectra and Muscæ.—

The Iris.—Muscles of the Eye; Provision for protection of the Eye; Comparative Anatomy;—Seeing; the Eye during Waking and Sleeping; double Vision; Squinting.—Adaptation of the Eye to distance.

Of the Ear. Of Sound; Comparative view of the Organ of Hearing; Anatomy of the Human Ear; Structure and actions of the Membrana Tympani; chain of bones—their use; the Muscles of the Tympanum; uses of the several parts of the Labyrinth; Functions illustrated by disease;—generally of the Sense, and comparison with musical instruments.

Of Smelling. Cavities of the Face; Structure of the Nose; Nerves of Smelling; false perception of odours; importance in the lower animals.

Of the Tongue. Its three Systems of Nerves; its Compound operations:—mastication; deglutition; taste; Papillæ; substance; smell and taste.

VII. *Of the Circulation.* History.—*The Heart.*—Arrangement of its Fibres; its action, and pulsation.—Cavities; Valves, &c.—Columns; Coronary circulation; Foramina Thebesii.—Experiments on the Heart's action.—*The Structure of Arteries:*—Elasticity; Muscularity.—Of the Pulse; Hæmorrhagic and inflammatory actions; Exhibition through the Microscope.—Powers circulating the Blood; Tortuosity of Arteries; Abdominal pulsations; Powers accessory to those of the Heart and Arteries.—*Veins:*—Valves; quantity of blood in the Body; Hydraulic Principle in its operation in a living Body.—Influence of Respiration: Varix; *Circulation in the Fœtus;* influence of Cutaneous temperature; Malformation of the Heart; Puer Ceruleus; Hybernation.—*Of the Circulation in the Brain;* peculiarities in the Arteries; Veins: incompressibility of the Brain; motions of the Brain; injuries from within contrasted with external injuries; Fungus Cerebri; Apoplexy.—Of the Lymphatics; of absorption. History of discoveries; Opinions on the absorption by Lymphatics and by veins.

VIII. *Of the Blood.* Classification of Fluids; spontaneous changes; Life of the Blood; relation of Solid and Fluid; of Hæmorrhage; Chemical analysis of the Blood.—History and present state of opinions; Sanguification; Transfusion.

IX. *Of Respiration.* Of the Atmosphere; height, pressure, motion; Chemical analysis; Structure of the Lungs; Comparative Anatomy; Mechanism of Respiration; Comparative View. Capacity of the human Lungs and their different Conditions; Historical view of Experiments; Changes produced upon the Air; on the Blood; Experiments on the 8th pair of Nerves; general view of superadded powers through the Organs of Respiration.

X. *Of the Voice.* Larynx; inferior Larynx; Pharynx; the relations of their Muscles to those of Respiration; Breathing; Whispering; Vocalization; Musical sounds; true Organs of Articulate language; Organs of Sound ascertained through the effect of disease and wounds; imperfections of Speech; their corrections.—Of the Larynx as a guard on the Lungs; actions of the Muscles of the Glottis; of Submersion.

XI. *Of the Skin.* Anatomy; Colour; Hair, &c.; Varieties of mankind; influence of Climate; Transpiration; action on the Air; vicarious action; of Temperature, and of Animal Heat.

XII. *Of the Structure of Glands, and of Secretion introductory to the Abdominal Viscera.* Abdomen.—Arrangement of the Viscera.—Comparative view of the Intestinal Canal, and generally of its functions.

XIII. *Teeth.* Organs of Mastication; Salivary Glands; &c. Of the Fœtal state of the Jaw; formation of the Teeth; Deciduous; Adult; Comparative view of the Teeth of Animals; Life; Sensibility; Vascularity of the Teeth; their diseases.

XIV. *Membranous Viscera.* Structure of the Pharynx and Œsophagus; Deglutition; Paralytic and Spasmodic affections.—Hunger and Thirst.—Structure of the Stomach; Comparative view. *Digestion.*—History of opinions; articles of Food; Poisons; Natural actions of the Stomach; inverted action; Borborygmus; Hiccough; Vomiting; Duodenum; its special Function. Small Intestines:—Chyme; Chyle; Assimilation; Muscular action of the Intestines; Ileus, Intussusceptio. *Great Intestines:*—Their peculiarities; their Structure taken comparatively; their Functions.

XV. *Solid Viscera.* *The Liver:* peculiarities in its circulation; Fœtal and Adult Circulation; Experiments on its Function; Malformation; relation to the intestines; to the Lungs, &c. Chemical analysis of the Bile, and its influence on the contents of the Intestinal Canal. Of the *Spleen,* and *Pancreas,* &c.

XVI. *Of the Kidney;* its Structure; History of opinions; Chemical History of Urine; Calculi. *Bladder and Urethra.* *Testis.*

XVII. *Uterus; Ovaria; Mammæ;* and review of the peculiarities of the Female System; Conception; Pregnancy, and Delivery.

XVIII. Peculiarities of the Fœtus.

A review of the more important subjects, in the conclusion of the second division of the Course.

NATURE AND TREATMENT OF DISEASES.

PROFESSOR,
JOHN CONOLLY, M.D.

Every morning, (except Saturday,) from Nine to Ten.

FIRST COURSE { About 80 hours of } Fee £3.
SECOND COURSE { instruction each, } £3.

THE object of this Professorship is to teach what is commonly called the Practice of Physic.

The medical student having already made some progress in his studies, is now to be led to the practical application of what he has acquired. His acquaintance with the anatomy and physiology of the human body in a state of health is to be connected and contrasted with the structural and functional changes or varieties which are denominated disease. He is to be instructed concerning the methods of employing various articles used in medicine, with the properties of which he is supposed to be made more fully acquainted by the Professors of Chemistry, Botany, and the Materia Medica; and to be informed how to adapt various remedial means, and various rules of diet and regimen, to the prevention, or relief, or cure of all diseases; those only ex-

cepted which fall more particularly under the province of Surgery, and those which are called Puerperal.

In order to make this preparation for practical duties effectual, the numerous maladies to be spoken of will be brought under the consideration of the student, so arranged that the study of them may readily be combined with his anatomical and physiological knowledge; and each disease being thus studied in its natural place, he will, it is imagined, be better prepared to recognize every disease when afterwards presented to him.

Each division arising out of this arrangement will be introduced by a Lecture or Lectures on the general pathology of the disorders comprehended in that division; and by such references to Anatomy and Physiology as are best calculated to recall points of primary and constant importance.

The separate diseases of each division will then be considered; and the external or perceptible phenomena, those functional or structural irregularities which constitute symptoms, will be carefully described, not merely in a systematical or historical order, but, keeping in view the application of what is taught, in the form in which they are most likely to demand the young practitioner's attention.

But as all who have had occasion to put into practice what they have learned, must have been taught the difficulty of rendering available to establish a diagnosis of the affections they indicate, the descriptions of disease which they have heard or read, it will be the particular object of the Professor of this department, whenever the symptoms he has to mention depend on palpable alterations of any organ, to assist the learner by representations of such changes; sometimes by preparations of morbid parts, or models of the results of diseased actions; but more frequently by means of drawings, faithfully copied and coloured from nature, and exhibiting the actual appearance and condition of different organs in various stages of the maladies to which they are subject. The judicious liberality of the Council of the University has already led to the acquisition of a large and invaluable collection for this important purpose.

It is evident that in this way the symptoms or signs of diseases will be more easily explained, more closely associated with the morbid processes which occasion them, and more accurately remembered; that the differences between one disease and another will be better discriminated, and the progress and consequences of each more clearly foreseen.

Supposing these advantages to be obtained, they cannot fail to be followed by another of the utmost importance: for, if a student knows a disease when he sees the symptoms; if he knows in what the disease consists, or what its nature is; it will be very easy to direct him to the rational means of curing, or relieving, or preventing such disease; that is, to the *treatment* of it. And it may be further presumed that the student will thus not only learn what to do in plain and obvious affections, but will insensibly become master of those principles which will guide him securely in all the obscurities and difficulties incidental to the practice of medicine.

Many parts will be illustrated by reference to

instructive examples in the Hospital and Dispensary; in both of which establishments the instruction, being strictly Clinical, will, it is hoped, perfect and complete the design of Medical Education contemplated, among other objects, by the founders of the University.

Hopes are moreover entertained that the advantage of Clinical illustration will be extended to a class of disorders heretofore too much excluded from the view of the student, namely, *Mental Disorders*, or those affections which interfere with the manifestation of the mental faculties. The maladies of this class, than which none are more perplexing to the practitioner, or so often involve him in circumstances of heavy responsibility, will be very fully investigated, and every opportunity taken to make the student practically acquainted with their forms and management.

In endeavouring to complete this outline of a course so comprehensive, and including many subjects confessedly very difficult, so much of the History of Medicine will from time to time be introduced as, by exhibiting the progressive steps of the science, and the various delusions which have successively arisen, flourished for a time, and fallen into neglect, may best instruct those commencing the study of physic concerning the errors to be avoided, and the means of acquiring exact knowledge. Without cherishing any disposition to cavil where the evidence in favour of admitted facts is satisfactory, the foundation on which many commonly received opinions rest will be critically examined; the asserted causes of diseases scrupulously inquired into; and the supposed effects of some medicines, which are customarily and implicitly prescribed, freely questioned. Lectures, which the paucity of books once made necessary, are now rendered no less so by the daily accumulation of authorities; and the proper and constant business of a lecturer is the selection, and arrangement, and condensation of what is true and what is useful. If this task is performed faithfully and with due discrimination, he can hardly fail to create a just and wise ambition in his hearers. Acknowledging the present imperfection of the science of medicine, he may justifiably encourage a desire to improve it: and, at the same time, with the help of many recorded examples, he may show, that honourable distinction is not to be usurped by the profession of ingenious novelties, by the premature publication of the results of limited experience, or by the espousal of erroneous doctrines capable of specious defence: but slowly and surely to be attained by a diligent, patient, and conscientious search after truth.

As, when all is acquired which the teacher can impart to the most diligent student, success and reputation materially depend on the principles which govern the practitioner in his first attempts to apply the lessons of the schools to the business of his life, the Professor of the Nature and treatment of Diseases will think it part of his duty, when taking leave of his pupils at the end of each Academical Session, to remind them of those rules of moral and professional conduct which are best calculated to increase their usefulness; and to enforce, in a few Lectures on Medical Ethics, those principles, without which the highest professional attainments are of no value.

MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

PROFESSOR,

DAVID D. DAVIS, M.D. M.R.S.L.

Monday, Tuesday, Thursday, and Friday Mornings, from Ten to Eleven.

FIRST COURSE { About 60 hours of } Fee £3.
SECOND COURSE { instruction each, } £3.

THE Professor of Midwifery will open the business of his department by an Introductory Discourse, which will contain a short sketch of the history and objects of obstetric science. In his second address he will lay before his pupils a general outline of the plan of his course, as distributed into three principal divisions of his subject, viz. THE ANATOMICAL, PHYSIOLOGICAL, and PATHOLOGICAL. In the lectures immediately succeeding will accordingly be given so much of the anatomy of the female pelvis and of the other structures contained within its cavity, or externally attached to it, as will be required to be familiarly known by the student in order to enable him to comprehend perfectly the more advanced instructions of the Professor, and eventually to engage in the practical duties of the art of midwifery with confidence and credit. Under this head will be explained the numerous distinctions among pelves, founded on their sizes, forms, ages and sexes of their subjects; their states as to health and disease; and their relative positions to the trunk of the body.—Rules will be here propounded for ascertaining the characters and degrees of the more remarkable distortions, incident to this important part of osteology.

The anatomy of the pelvis will be followed by that of the uterus, ovaries, Fallopian tubes, &c.

To the anatomical department of the course will immediately succeed its PROPER PHYSIOLOGY, consisting of a detailed explication of the uses and actions of the organs included under this department. In the sequel of these investigations the phenomena of gestation and parturition will naturally present themselves for discussion; or in other words, the student will be thus introduced to the practical part of the art of midwifery.

Labours will be distributed under FOUR principal classes, to be distinguished respectively, by the epithets NATURAL, PRÆTERNATURAL, COMPLEX, and INSTRUMENTAL.

The histories of these several varieties of human births will be detailed at ample length, and so constantly in connection with the indications of treatment proper to be pursued in each, as to ensure abundant opportunities to the pupils of making themselves familiarly acquainted, as well with the theory or principles, as with the practical precepts of the art. The fourth and last class, viz. that of INSTRUMENTAL LABOURS, will be illustrated during certain periods of the session by operations on machines well adapted to represent the actual difficulties of the art, and to furnish to the pupil opportunities of acquiring perfect dexterity in the use of instruments.

After exerting his best endeavours to do justice to all the subjects usually comprehended under the designation of "Theory and Practice of Midwifery," the Professor will proceed to the discussion of the subjects included in the Third Principal Division of his Course; viz. that in

which he will treat of the DISEASES of WOMEN and CHILDREN.

This latter part of the subject, usually called the PATHOLOGICAL DEPARTMENT of a course of obstetrics, naturally distributes itself into two great subdivisions; the first professing to treat of the DISEASES of WOMEN, and the second of those of CHILDREN.

Of these, the former will again comprehend its objects under three minor subdivisions, of which the FIRST will treat of the Diseases of Women generally, without reference to the state of gestation or its consequences; the SECOND, of the Diseases of Pregnancy; and the THIRD, of those of the Puerperal state.

In the consecution of subjects to be treated of under the first of these subdivisions, the arrangement will be founded on the order of the Structures implicated, as previously demonstrated in the Anatomical part of the Course.

Malpositions, imperfect development, and diseased states of the uterus and its appendages, will form the leading subjects of discussion under this head. The concluding part of the section will be devoted to an extended examination of the more functional and constitutional diseases of the human female.

The SECOND SUBDIVISION will treat of the diseases of Pregnancy, including morbid changes of position of the gravid uterus; 2. Pregnancy complicated with diseases of the uterus itself, dropsy of the amnion, and diseased retention of the ovum in the uterine cavity, for months or years after the natural period of gestation; 3. Extra-uterine gestation; Pregnancy complicated with diseases of other organs situated in the immediate neighbourhood of the gravid uterus; 5. Pregnancy complicated with diseases of organs remotely situated from the uterus, but nevertheless subject to its influence; 6. Pregnancy disturbed by exposure to physical accidents, violent moral influences, or by the supervention of small-pox, measles, scarlet fever, and other acute and constitutional diseases.

The THIRD and last Subdivision of this department of the Course, will treat of the DISEASES of the PUERPERAL STATE. The greater number of the diseases incident to this state, being of an acute and inflammatory character, and some of them not devoid of danger even to the life of the patient, the Professor will deem it his duty to enter at considerable length into the Pathology of this part of his subject. The following may be noticed as amongst the principal diseases to be here treated of: viz. Inflammation of the uterus and its appendages; Inflammation of the peritoneum, constituting one of the most dangerous diseases of the puerperal state; Ephemera; Puerperal intermittent fever from violent inflammation and suppuration of deep-seated structures; Puerperal irritative fever; Puerperal phrenitis; Puerperal mania, and Phlegmasia dolens.

The SECOND DIVISION of the Pathological Department will treat of the Diseases of Children; which will be comprehended under two principal heads: viz. of Diseases existing at the birth; and of those supervening after birth. This part of the subject will more especially occupy the Professor's attention during the Second Course.

The first section will treat of apparently still births, of great feebleness of new-born infants,

contusions and other injuries attributable to difficult births; congenital malformations; imperforate states of parts not naturally closed; preternatural adhesion of parts to contiguous surfaces; solutions of continuity of naturally continuous structures; supernumerary and vicarious outlets; distortions from irregularity of relative positions of parts, as also from excess or defect of parts; congenital dropsical effusions; congenital constitutional diseases, as small-pox, &c. &c.

The latter section under this head of the subject, will treat of the principal ailments of infants during the month; and then successively of eruptive and other diseases of the skin; of diseases of the alimentary organs; of the morbid phenomena incident to the process of dentition; of convulsions; of hydrocephalus; of infantile remittent fever, and other febrile diseases.

The Second Course will be concluded with an address on the advantages to be derived by the student from an honest and successful application to the study of obstetric science.

MATERIA MEDICA AND PHARMACY.

PROFESSOR,

A. T. THOMSON, M.D., F.L.S.

Every morning, (except Saturday,) from Eight to Nine.

FIRST COURSE { About 80 hours of } Fee £3.
SECOND COURSE { instruction each, } £3.

THIS subject will be treated in two distinct Courses of Lectures: the first confined exclusively to MATERIA MEDICA, or an Account of the Characters and Properties of those Natural Productions, which are employed as Medicinal Agents; the second to

PHARMACY, or that branch of Chemical Science which relates to the Combination and Mixture of the above-mentioned Substances, for the purposes of Medicine.

FIRST COURSE.—MATERIA MEDICA.

This Course will be founded chiefly on Physiology and Therapeutics. It will be prefaced with a few lectures on the object, importance and method of studying Materia Medica; the branches of science which are required to be known in order fully to understand the subject; the circumstances which have obstructed its advancement, and the advantages which a perfect knowledge of it confers upon the physician in the treatment of disease.

Although an acquaintance with several branches of Science be requisite for acquiring a perfect knowledge of Materia Medica, yet in this Course, the method to be pursued will be calculated as much as possible to render the instructions intelligible to those who have not had the advantage of such previous studies.

A general physiological view of the mode in which Medicinal Agents operate on the living body will first be presented; whether the results depend on the medicines being conveyed by absorption undecomposed into the system, or on their being decomposed and operating only by one or more of their constituents; or on their

influencing the habit through the medium of the circulation, or by their acting on the nervous energy. The influence which temperament, age, sex, idiosyncrasy, habit, climate, and the period of a disease exert in modifying the effects of remedies; the sway which credulity, superstition and other mental affections and moral causes have over their operation; and the manner of guarding against the deceptive representations of patients, will be fully discussed.

The Classification of the articles of the *Materia Medica*, proposed by the most distinguished writers on this branch of medicine, will be next noticed; and the advantages and disadvantages of each arrangement elucidated. The classification proposed to be adopted in these Lectures, is founded on the influence which the various substances exert on the animal œconomy;—because this is the ultimate object of *Materia Medica*; and also, because it admits of a less objectionable arrangement of the substances, which constitute the *Materia Medica*, than any other method. In the application of it, those things which are the most simple in their operation will be first described, and the others in succession, according to the degree of complication in their effects.

CLASSIFICATION OF THE MATERIA MEDICA.

CLASS I.—Remedies which produce their effects without exerting any evident influence on the vital principle.

ORDER I. EMOLLIENTS. *Genus*. 1. Demulcents.
2. Diluents.

CLASS II.—Remedies which produce their effects by their influence on the simple vital animal solid, and on the nervous energy.

ORDER II. STIMULANTS. {
3. Errhines.
4. Epispastics.
5. Sialogogues.
6. Cathartics.
7. Emetics.
8. Diuretics.
9. Diaphoretics.
10. Expectorants.
11. Emmenagogues.
12. Astringents.

a. local {
b. general { 1. Permanent. 13. Tonics.
2. Transient. { 14. Narcotics.
15. Antispasmodics.

III. DEPRIMENTS. { 16. Sedatives.
17. Refrigerants.

CLASS III.—Remedies which influence the state of the body or its contents by their chemical properties.

ORDER IV. SOLVENTS. { 18. Escharotics.
19. Lithontriptics.

V. NEUTRALIZANTS. { 20. Antacids.
21. Antalkalies.

CLASS IV.—Remedies not referrible to the former Classes; which operate by producing either an insensible effect on the body, or by their mechanical, chemical, and stimulant powers, separately or combined, in a manner not distinctly understood.

ORDER VI. HETEROCLITICS. 22. Specifics.

APPENDIX. *Electricity. Galvanism. Magnetism.*

In discoursing specially upon the Genera, the species and varieties belonging to each Genus will be described in regular order, as they belong to *Organic*, or *Inorganic* matter. Thus, for example, the Genus Antispasmodics will be treated of in the following order.

A. ORGANIC SUBSTANCES OPERATING AS ANTI-SPASMODICS.

* *from the Animal Kingdom.*

Species 1. Musk.

- Var. a. Chinese.
- b. East Indian.
- c. Russian.

Species 2. Castor.

- Var. a. Russian.
- b. Canadian.

Species 3. Animal Oil.

- Var. a. Cod liver oil.
- b. Empyreumatic oil of hartshorn.

** *from the Vegetable Kingdom.*

Species 4. Opium.

- Var. a. Turkish.
- b. East Indian.
- c. English.

5. Cajeput oil.

6. Galbanum.

7. Sagapenum.

8. Assafoetida.

9. Cinchona.

10. Valerian.

11. Saffron.

Var. a. English.

b. French.

c. Sicilian.

12. Camphor.

B. INORGANIC SUBSTANCES ACTING AS ANTI-SPASMODICS.

Species 13. Amber.

14. Bitumen.

- Var. a. Naphtha.
- b. Petroleum.
- c. Maltha.
- d. Mineral tallow.
- e. Asphaltum.

15. Carbonate of Ammonia.

16. Ether.

Var. a. Sulphuric.

b. Nitric.

c. Muriatic.

17. Preparations of Copper.

18. ————— of Zinc.

19. ————— of Mercury.

In describing each substance, its Natural History will be first detailed; then its Physical Properties; thirdly, its Chemical Properties; fourthly, the manner in which it is adapted to fulfil its intention, and its direct influence as a remedy upon the animal economy, with its effects upon the morbid condition of the body; and, lastly, the mode of prescribing it; the doses in which it may be given, and the excesses to be avoided; in what manner to augment its powers, and how its injurious effects may be counteracted or destroyed when it is overdosed.

This important part of the Course will be rendered as practically useful as possible, by referring the student for the demonstration of the effects detailed, to existing cases, either in the Hospital or elsewhere, to which he can obtain access; or

to those in the writings of the most credible authors.

The description of each article will be illustrated by specimens, tracing it from its origin through every change natural and artificial, to the state of a medicinal agent; by drawings of the animals and the plants, and of their parts; and by living examples, when these can be obtained; and also by specimens of each article in the three following states: 1. The state nearest to the natural in which it can be procured;— 2. The state in which it is usually found in the shops;—and 3. In the worst or adulterated state.

The effects of *light, heat, air, moisture, and time* on each Medicinal Agent will be demonstrated.

This Course will terminate with a sketch of the history of the rise and progress of *Materia Medica* as a branch of Medical Science; and an account of the principal writers on the subject; with directions for consulting their works with advantage.

SECOND COURSE.—PHARMACY.

This Course will be prefaced by an account of the Objects of Pharmacy, and of the Instruments employed in its various processes. The general theory of Pharmaceutical operations will be then explained, and the products displayed.

In reference to the British Pharmacopœias, all the principal articles will be prepared in the presence of the students: and as this part of the Course will afford the opportunity of demonstrating the effects of chemical remedies upon one another, the art of Prescribing will be thence practically illustrated.

The properties and value of tests in reference to investigations connected with Forensic Medicine, will be treated of in this course, and practically demonstrated by experiments. This part of the subject will also be illustrated by preparations of the stomach and other parts on which poisons have exerted a fatal influence.

This course will terminate with a brief History of Pharmacy.

An ample Museum of *Materia Medica* is in preparation, to be arranged for the purposes of instruction; and as this will be open to the pupils under proper regulations, it is hoped that it will afford great facilities for the acquisition of a complete knowledge of this branch of Medical Science.

CLINICAL LECTURES ON MEDICINE.

PROFESSOR,

THOMAS WATSON, M.D., Fellow of the Royal College of Physicians.

On Monday and Wednesday Evenings, from Six to Seven.

About Sixty hours of instruction, Fee £4.

The object of clinical instruction is to teach the practice of Physic by examples; to show the application of principles, already understood, to that which is their immediate end,—the treatment and prevention of disease.

A public Hospital furnishes extensive oppor-

tunities for observing the progress of disease, and the effects of remedies. With respect to diseases, the student here acquires for himself, what precepts alone must always confer very imperfectly, the power to recognise and interpret their distinctive characters. Here he becomes acquainted first with the more obvious, and then learns to detect the more obscure diseases. He distinguishes between those that are apparently similar, though really different. He discerns the many modifications of the same disease which age, and sex, and habit, and external circumstances, and accident, may produce; and is able to separate and classify the symptoms which arise when two or more diseases are combined at once in the same person. With respect to remedies, —he learns the various and most convenient modes of combining and administering them; he watches their effects, and judges by his own reason and observation, of the benefits which belong to particular modes of treatment.

A Hospital affords, moreover, peculiar advantages to the student, in presenting to him many cases of the same denomination at one time, or in quick succession; and thus enabling him to calculate the average duration of different diseases—to foresee the probable event—and to judge, by the comparison of numerical results, how far they are capable of being mitigated or removed by various methods of treatment: while in the mean time he contemplates the influence which is exerted upon the human body by seasons, by certain states of the atmosphere, by the epidemic constitution of different years, by various habits of life, and by different pursuits and occupations.

The University of London has not neglected to provide for the student of Physic these great advantages. It has instituted a Chair of Clinical Medicine; and the Professor, from his connection with the Middlesex Hospital, will possess ample materials for this kind of instruction.

In the Hospital, a history of each case will be drawn up, on the admission of the patient, and daily reports made of its progress, of the remedies prescribed, and their apparent effects. These histories and reports will be entered in a book which will be constantly accessible to the student; and care will be taken, on the one hand, that no point or circumstance of importance be neglected; and on the other, that the attention be not distracted, or the memory confused, by too minute a detail, or by the needless repetition, of indifferent particulars.

The Clinical Lectures, proposed to be delivered in the University twice a week, will be a series of commentaries upon the practice adopted by the Professor in the Hospital. In these lectures he will endeavour to separate the signs which simply denote the nature of the disease, from those which serve as guides to its treatment:—to distinguish the changes produced by remedies, from the effects of the disease, or of natural causes:—to indicate the many sources of fallacy to which medical observation is exposed, and the cautions by which such fallacies may often be avoided. In the event of death, no opportunity will be neglected of investigating and explaining the essential conditions of disease, which dissection may unfold. The changes produced by morbid action in different parts of the body will be pointed out, and distinguished from certain deceptive appear-

ances which, though quite independent of disease, are often mistaken for it, and which are apt to occur during the last moments of life, or even after death.—The Lectures will also be illustrated by Drawings and Preparations belonging to the University, and by references to works of credit and authority.

SURGERY AND CLINICAL SURGERY.

PROFESSOR,

CHARLES BELL, Esq. F.R.S. L. & E. &c.

On Tuesday, Thursday and Friday Evenings,
from Six to Seven.

About Ninety hours of instruction, Fee £5.

THESE lectures will embrace the whole of Surgery; but will differ from the regular course of surgical lectures in the arrangement of the subjects, as well as in the mode of treating them. In the regular course the usual manner is to deliver to the pupil a succession of discourses, initiating him, and gradually leading him from principles to practice, from obvious to more complex views of the subject. These clinical lectures on the contrary, proceed on the supposition that the pupil's mind is prepared by seeing the cases in the Hospital; by being acquainted with the actual appearances of disease, and of the symptoms as expressed by the patients themselves. When he has thus become sensible of the absolute necessity for surgical assistance, and above all, when he participates in the anxiety which these cases give rise to,—he is prepared to pay the utmost attention to the lecture which explains the principle on which the surgeon is acting.

From this it will appear, that the matters treated of must be according to the incidental occurrences in the Hospital. For the students must first have seen the things of which the Professor has to speak; and therefore, the practice of the Hospital determines the order of the lecture. The student will take his case-book round the Hospital with him, and there he will have the history and symptoms of the case, and the prescriptions dictated to him. The Professor's book of cases will lie in a convenient place in the University, that the student may transcribe the cases or compare his own notes with the authentic record.

At the lecture, the case or a succession of cases will be read, and such observations made as the subject may demand: and in the end of the season, the pupil will have by this means some volumes of cases recorded under his own eye, with the prescriptions used, and a commentary on each case.

The advantages arising from these lectures being delivered in the University are manifest. The Professor has it in his power to illustrate them by preparations; to compare the skeleton and joints with the accidents which have occurred; and sometimes to have recourse to the recent body in illustration of particular points of inquiry.

The subjects treated of will be especially those which offer themselves incidentally and suddenly to the practitioner;—such as Wounds; Fractures; Dislocations; Injuries of the head, and

fractures of the skull; Hæmorrhage, Hernia, &c. and after these, Ulcers, Abscesses, Erysipelas; Mortification; Diseases of the urethra, Strictures, &c.—The Middlesex Hospital contains abundance of cases of cancers in the Cancer-ward; of syphilis in the two wards appropriated to such patients. Diseases of the joints, distortions of the spine, and scrofulous diseases, will necessarily engage much attention during the course.

As Mr. Bell will, at the request of the Council for the ensuing season, perform the duties of the Professor of Surgery, he will therefore arrange these lectures on the plan of a regular course. He will preface each set of cases with a discourse on the principles which belong to them; and thus combine the lectures on the Theory and Practice of Surgery with the Clinical observations.

From this arrangement, and from Mr. Pattison combining with his lectures a complete Course of *operative Surgery*, the medical students attending the University will have secured to them full instruction in GENERAL, OPERATIVE, and CLINICAL SURGERY, without the payment of an additional fee.

At the conclusion of the Course, Mr. Bell will grant the certificates for the Course of Surgery required by the College of Surgeons.

CHEMISTRY.

PROFESSOR,

EDWARD TURNER, M.D., F.R.S.E.

Every morning, (including Saturday,) from Ten to Eleven.

FIRST COURSE { About 100 hours of } Fee £4.
SECOND COURSE { instruction each, } £3.

These Lectures, forming a branch of general as well as of Medical education, will commence on the 3rd of November.

THE Lectures on Chemistry will be divided into two separate courses of equal length. The subjects to be discussed in each course are enumerated in the subjoined outline; but as the plan embraces a very extensive department of knowledge, comprehending both the Science of Chemistry and its application in the chemical arts and to collateral sciences, it will be impossible to discuss every branch completely in the period assigned to each course. On this account it is thought advisable to make the following arrangement. In the First Course, the subjects comprised in the first and second parts of the prospectus will be fully treated, and a condensed view given of the third part. In the Second Course, a less detailed account will be given of most of the subjects belonging to the first and second parts, and those subjects will be considered at length which were less amply discussed in the First Course. By this plan it is intended to give a complete view of the Science of Chemistry in each course, and during each academical session to treat fully of all its applications, as mentioned in the outline.

PART I.

1. Caloric—its nature, properties, mode of distribution, and effects; the natural phenomena connected with it; and its uses and employ-

ment in the Arts, in Domestic Economy, and in Chemistry.

2. Light, chiefly in relation to its chemical agencies.

3. Electricity, Galvanism, and Electro-magnetism.

PART II.

1. Chemical Attraction or Affinity; Doctrine of Definite Proportions; and Atomic Theory.

2. History and Properties of the twelve elementary non-metallic bodies; namely, oxygen, hydrogen, nitrogen, carbon, sulphur, phosphorus, boron, selenium, chlorine, iodine, bromine, and fluorine; together with the immediate compounds which they form with each other, such as sulphuric, nitric, and muriatic acids, ammonia, carburetted hydrogen, &c.

3. History and properties of the forty metals and their compounds—

1. With the non-metallic bodies; such as oxides, chlorides, carburets, sulphurets, &c.

2. With each other; such as brass, pinchbeck, bell-metal, and other alloys.

4. Salts, which will be arranged in groups according to the nature of their acid; as for example—

Sulphates,

Nitrates,

Chromates,

Muriates, &c.

5. The nature, properties, and analysis of mineral waters, which will be arranged under the six following heads:—

1. Acidulous waters, or those which derive their chief character from a free acid.

2. Alkaline waters, or such as contain a free alkali.

3. Chalybeate waters, or those which contain iron.

4. Sulphurous waters, or those which contain sulphuretted hydrogen.

5. Saline waters, or those that derive their leading features from the presence of neutral salts.

6. Siliceous waters, or such as contain siliceous earth.

PART III.

1. Vegetable Chemistry, comprehending

1. The history, properties, and preparation of the proximate principles of plants, and substances of vegetable origin, such as the vegetable acids and alkalies, camphor, oils, alcohol, &c.

2. The processes of fermentation, and the changes to which dead vegetable matter is subject.

3. Chemical Physiology of vegetables, or the chemical phenomena concerned in the germination, growth, and nutrition of plants.

4. Nature of soils, and mode of analysing them. The application of Chemistry to Agriculture will be treated of in this part of the course.

2. Animal Chemistry, including an account

1. Of the proximate principles of animals, and substances of animal origin; such as albumen, fibrin, gelatine, &c.

2. Of the complex fluids and solids of animals, such as the blood, milk, muscle, bone, &c.
3. Of the chemical physiology of animals, or the chemical phænomena occurring in the bodies of animals in a state of health; as, for example, the process of respiration.
4. Of the nature of morbid productions, such as calculous concretions.
5. Of putrefaction, and the changes to which dead animal matter is liable.

The subjects discussed in the lectures will be illustrated by experiments, diagrams, and preparations; and works for consultation will be mentioned, with a view of directing the students to a proper course of reading on Chemistry.

The lectures will include an account of the utility of chemical philosophy in explaining the phænomena of the material world, its applications in the Arts, and its connections with the objects of collateral sciences. Thus, all the chemical arts and manufactures, such as bleaching, dyeing, metallurgy, the formation of steel, &c., so far as the principles of chemistry are concerned, will be described; but their details, which belong to a separate chair, will be omitted. In like manner, the connection of chemistry with other sciences, such as mineralogy, geology, and meteorology, will be traced in treating of the composition and formation of minerals, the meteorological phænomena of the atmosphere, and the chemical changes taking place on the surface of the globe.

As part of the students of chemistry will consist of gentlemen engaged in the study of medicine, it will be an essential object to communicate every kind of chemical information which may prove useful to the medical practitioner. Thus the methods of detecting the presence of poisonous substances, both in their pure state, and when mixed with the fluids of the stomach, together with the chemical means of destroying their energy, will be amply treated. An equal degree of attention will be devoted to those departments of physiology and pathology, which admit of being elucidated by the facts or principles of chemistry. The nature of all those pharmaceutic preparations which may be regarded as pure chemical compounds, or are produced by complex chemical processes,—such as acids, ether, calomel, corrosive sublimate, and analogous substances,—will be carefully explained. It is intended that subjects of this nature, when not likely to be of general interest, shall be discussed on certain days exclusively devoted to that purpose.

In addition to the lectures there will be two kinds of classes for practical instruction in chemistry. The senior class will consist of a few advanced pupils, who will perform analyses in the laboratory. The junior class may be more numerous. Its precise object is to teach the mode of performing the experiments of demonstration, the proper employment of apparatus, and the method of chemical manipulation.

MECHANICAL PHILOSOPHY.

PROFESSOR,

REV. DIONYSIUS LARDNER, LL.D.
F.R.S.L. & E. M.R.I.A. F.C.P.S. F.A.S. &c.

LECTURES on Mechanics and other branches

of Natural Philosophy will be delivered in the course of the season, three days in each week. In these Lectures the Professor will give particular attention to those parts of the science which are considered most useful to medical students. Technical mathematics will for the most part be avoided, and the instruction will be adapted to students who may not have had opportunities of acquiring the usual preliminary knowledge in algebra and geometry.

COMPARATIVE ANATOMY AND ZOOLOGY.

PROFESSOR,

R. E. GRANT, M.D. F.R.S.E. F.L.S. M.W.S.
*Memb. of the Med. Chirurg. Soc. of Edinb., late
Pres. of the Royal Med. Soc. of Edinb., Fellow
of the Royal College of Physicians of Edinb. &c.*

The Lectures will be delivered on Mondays, Wednesdays, and Fridays, from Three to Four, during the Academical Session. Fee £5.

THE Course will embrace an account of the structure, functions, history, and classification of existing animals, and a description of the fossil species; and the Lectures will be illustrated by an extensive series of zoological specimens, drawings, and zootomical preparations, the greater part of which are already collected and arranged. The Classes, Orders, and Genera of every division of the animal kingdom will be considered, and the most useful or interesting species of each group will be selected for illustration.

After a few preliminary Lectures, detailing the objects and relations of the study of animals, and explaining the technical language of the science, the Comparative Anatomy will occupy the first half of the Course, and will comprehend a description and demonstration of the organs of *Motion, Sensation, Digestion, Circulation, Respiration, Secretion, and Generation*, in all the various tribes of the lower animals. The physiological details, and the applications of the facts to Zoology, Medicine, and other sciences, will accompany the demonstrations of structure; and this part of the course will conclude with observations on the mode of conducting zootomical inquiries, and on the art of making and preserving zootomical preparations.

The Zoology will succeed the Anatomical details, as all scientific arrangements of animals are founded on structure, and will be divided into two distinct departments: the first treating of existing animals, and the second of extinct species. The history of the existing species of the animal kingdom will comprehend the characters, classification, habits and uses of the animals belonging to the Classes *Mammalia, Aves, Reptilia, Pisces, Mollusca, Conchifera, Cirrhipeda, Annelides, Crustacea, Arachnida, Insecta, Vermes, Tunicata, Radiata, Zoophyta*, and *Infusoria*, commencing with the Natural History of the human species. This part will be terminated with practical observations on the methods of collecting, preparing, transporting, and preserving Zoological specimens. The history of Fossil Animals will be detailed in the same descending order of

the Classes, and will contain an account of their distinguishing characters, their physical condition, their geological situation, their geographical distribution, and their relations to the existing species. The connections of the study of fossil animals with physiology and geology will also be pointed out.

BOTANY.

PROFESSOR,

JOHN LINDLEY, Esq., F.R.S. L.S. G.S.

IN the Course of Botany, the science will be considered under two heads. The first of these, called Vegetable Physiology, will commence with an explanation of those simple elementary organs, out of which, by various combinations, all plants are formed; and of the functions of these organs, or the part that is assigned to each in the process of vegetation. In the next place the principles will be considered under which these organs are arranged in the root, stem, leaves, flower, and fruit, which are called composite, because they are composed entirely of elementary organs; and the several functions of composite organs will be detailed. In conclusion, the general laws of vegetation as deduced from the particular demonstrations of previous lectures, and the phænomena of vegetable life will be explained.

As an appendage to this part of the Course, Morphology, or the formation of bractææ, calyx, corolla, stamens, and pistillum by successive modifications of leaves will be discussed. This curious subject, which originated with Linnæus, and which is of the highest importance with a view to acquire just notions of the theory of vegetation, has never yet been taught in this country. A few lectures will be given upon the influence of the laws of Vegetable Physiology in the operations of Agriculture and Horticulture; and the geographical distribution of vegetables, together with the effects produced upon their external characters by variations of climate or of situation, will be fully explained.

The second division of the Course comprehends Systematic Botany; that is to say, an explanation of the principles of nomenclature and classification. This will be taught in its minutest details: together with the terms by which the different parts of plants and their modifications are known; and the principles upon which varieties, species, genera, orders, and classes are established.

In treating of the classification of plants, neither the artificial system of Linnæus, nor the metaphysical methods of other writers, will be overlooked; but the attention of the student will of course be directed most particularly to the more philosophical principles of arrangement, by which natural beings are classed according to the relations they bear to each other, and not according to arbitrary characters deduced from unimportant points of structure. In aid of this a small work upon the wild plants of Great Britain is in a state of preparation, and will be published before the Class commences.

Besides these topics, upon which the very foundations of Botany rest, there are some other subjects which it is intended to include in the Course. Fossil Botany, or the investigation of

the vegetation of those distant ages in which the face of the earth was covered with natural productions now unknown, is not only one of the most interesting inquiries to which the human mind can be directed, but also forms an admirable practical illustration of the theoretical principles of the science, and one of the best tests by which the progress made by the student can be tried. The subject will be considered, first, with respect to the nature of the characters retained by these ancient remains; secondly, with reference to the best manner of examining them; and thirdly, with respect to the geographical distribution of antediluvian vegetation as compared with that of the existing world. Directions will be given as to the most useful modes of preparing herbaria, upon which the existence of systematic botany in a great measure depends; and in conclusion, comparative and chronological illustrations will be offered of the art of Botanical drawing, a subject as important to artists as a knowledge of the anatomy of the human figure, or of animals; the theoretical principles of the art as far as relates to Botany, will also be demonstrated.

For the illustration of the lectures, drawings, living subjects, and preparations will be employed in such a manner as to compensate for the want of a Botanic garden. It is also proposed, should circumstances permit, to make a few occasional herborizations in the neighbourhood of London.

The Lectures will be given six times a week, from Eight to Nine in the morning, through the months of May, June, and July.

The following arrangement of the subjects of these Lectures will perhaps convey a more precise idea of the nature of the Course; but it is probable that for the sake of convenience the exact order in which the matter is here theoretically digested, may be in some degree departed from in practice.

VEGETABLE PHYSIOLOGY.

I. On the structure of

1. The Elementary organs, such as cellular tissue, spiral vessels, &c.
2. The Composite organs, formed by a combination of the elementary organs, and existing under the form of root, stem, bark, leaves, flowers, fruit, &c., including remarks upon anamorphosis.
3. The chemical constituents of vegetables.

II. On the functions performed by the parts before explained, considered under the following heads: viz.

1. The manner in which vegetables grow, the nature of their juices, and the laws under which these move from part to part, the phænomena of absorption, respiration, secretion, &c.
2. The modes in which they are propagated, whether by seed, cuttings, buds, layers, or otherwise.
3. The diseases to which they are subject.

III. On the doctrines of transformation; viewed as

1. Regular; as in all plants.
2. Irregular; as in double flowers, monstrous leaves, stems, or fruits.
3. Accidental; as in varieties of one species.

IV. On the application of the laws of Physiology to the arts of Agriculture and Horticulture.

V. On the laws by which vegetation is affected, according to

1. Latitude.
2. Longitude.
3. Soil.
4. Elevation above the sea.

SYSTEMATIC BOTANY.

VI. On the nomenclature of the science: considered under the following heads:

1. The names of the parts of plants.
2. The terms used to express the modifications of those parts.
3. The principles of naming genera, species, &c.
4. The mode of describing and defining plants.

VII. On the principles of classification; under which will be taught

1. The relative value of characters in distinguishing individuals, and in forming combinations.
2. The characteristics of species.
3. The characteristics of genera.
4. The nature of the higher combinations called orders, classes, &c.

VIII. On the consideration of systems divided into

1. Artificial systems; as of Linnæus, Richard, Lamarck, and others.
2. Natural systems; as of Jussieu, De Candolle, Agardh, and others.
3. Metaphysical systems; as of Oken, Fries, &c.

IX. On Fossil Botany; considered,

1. As to the nature and value of the characters still to be traced in the remains of ancient plants.
2. As to the mode of identifying them, by aid of their characters, with recent tribes of plants.
3. As to the distribution and character of the vegetation of the ancient world.

X. On the art of preparing dried specimens, in which will be explained the method,

1. Of preserving specimens of plants, by drying, placing in spirits, &c.
2. Of forming and maintaining Herbaria.

XI. On the art of representing plants by aid of drawings, treated,

1. Chronologically, showing the progress of the art, and the advances it has gradually made towards perfection.
2. Comparatively, illustrated by copies of drawings from eminent artists.
3. Theoretically.

DISSECTIONS AND DEMONSTRATIONS.

JAMES R. BENNETT, Esq., Demonstrator.

THE Rooms will be open every day, and the Demonstrations will be repeated as subjects are prepared, during the hours to be hereafter determined.

FIRST COURSE	{ Four Months }	Fee £3
SECOND COURSE		

HOSPITAL ATTENDANCE.

Aware of the great importance of affording to

the pupils of a Medical School the opportunity of observing Hospital practice, and of receiving Clinical instruction, the Council will make every effort to obtain a Hospital which shall be under their own direction. In the mean time, an opportunity has occurred of making an arrangement by which the pupils will have it in their power to witness the Medical and Surgical practice in the Middlesex Hospital, and DR. WATSON, one of the Physicians, and CHARLES BELL, Esq., one of the Surgeons of that Hospital, have accepted the appointments of Professors of Clinical Medicine, and Clinical Surgery.

When a Hospital under the direction of the Council shall be ready for the reception of patients, a new arrangement for Clinical instruction will be formed.

The Pupils of the University are to be admitted to the benefit of attendance at the Middlesex Hospital for the following Fees:

MEDICAL PRACTICE.

Academical Session of nine months, 12l. 12s.

Second Session, 12l. 12s.; after which the pupil will have free admission.

A fee of 21 guineas at one payment, or of 9 guineas in addition to the first 12l. 12s., if paid before the conclusion of the first Session, will also entitle the pupil to free admission.

Entrance Fee to the Apothecary, 1 guinea; to the Secretary, 5 shillings.

SURGICAL PRACTICE. The same as the above.

DISPENSARY.

THE DISPENSARY OF THE UNIVERSITY has been established in the immediate neighbourhood of the Institution, under the auspices of the Council, to render more complete the MEDICAL SCHOOL, until an HOSPITAL can be built exclusively attached to the University. It has been placed under the direction of the following Professors: DR. CONOLLY, DR. A. T. THOMSON, DR. D. DAVIS, and GRANVILLE SHARP PATTISON, Esq. with Mr. JOHN HOGG as resident Apothecary.

The students admitted to this establishment will have the advantage of Clinical instructions on a more extended scale than is usual at similar institutions. A daily explanation of the principal cases will be given: and each pupil, when adequate to the charge, will be intrusted with the management of cases, under the superintendence of the Physicians and the Surgeon. The pupils, from the first, will be instructed in the mode of examining patients, who apply for admission, and in drawing up the history of their cases. They will also receive Pharmaceutical instructions, as far as relates to the compounding of medicines, from the resident apothecary.

In the Midwifery Department they will derive peculiar advantages under the immediate guidance of the Professor of Midwifery.

Mr. Pattison will take every opportunity which may occur, in the Surgical Practice of the Dispensary, of performing in the presence of the students the different surgical operations. And as the after treatment will be particularly attended to, the Pupils will be able to witness the effects and advantages which the judicious employment of this exerts in securing the success of an operation.

The arrangements for the Medical School have been so framed as to enable the Pupils to comply with the regulations which must be observed by Candidates for the Diplomas of the Royal College of Surgeons, or the Company of Apothecaries.

The College of Surgeons requires that Candidates shall produce Certificates of attendance on the following Courses:

Three Courses of Anatomy,
One Course of Surgery,
Two Courses of Dissections and Demonstrations,
One Course of Chemistry,
Two Courses of Midwifery;

and One Year's attendance on the Surgical Practice of a Hospital.

The expense of the above, to a Student at the University, including a separate Course of Physiology, will be as follows:

	£.	s.	d.
First Course of Anatomy	4	0	0
Second ditto	3	0	0
Third ditto	3	0	0
First Course of Physiology	3	0	0
First Course of Surgery	3	0	0
First Course of Chemistry	4	0	0
First Course of Midwifery	3	0	0
Second ditto	3	0	0
First Course of Dissections and Demonstrations	3	0	0
Second ditto ditto	2	0	0
Matriculation Fee	2	0	0
Total Fees of the University, if the Student be nominated by a Proprietor	33	0	0
Addition, if not nominated	4	10	0
	37	10	0
One Year's attendance at the Middlesex Hospital	22	6	0
	59	16	0

The Company of Apothecaries requires that Candidates shall produce Certificates of attendance on the following Courses:

One Course of Materia Medica,
One Course of Chemistry,
Two Courses of Anatomy,
Two Courses on the Theory and Practice of Medicine,
Six Months attendance on the Medical Practice of a Hospital, or Nine Months at a Dispensary.

The expense of the above to a Student at the University, including a separate Course of Physiology, will be as follows:

	£.	s.	d.
First Course of Materia Medica	3	0	0
First Course of Chemistry	4	0	0
First Course of Anatomy	4	0	0
Second ditto	3	0	0
First Course of Physiology	3	0	0
First Course of Practice of Medicine	3	0	0
Second ditto	3	0	0
Matriculation Fee	2	0	0

Total Fees of the University, if the Student be nominated by a Proprietor	£.	s.	d.
Addition if not nominated	25	0	0
	4	10	0
	29	10	0
Six Months attendance at Middlesex Hospital	10	10	0
	40	0	0
Or, Nine Months attendance at the University Dispensary	5	0	0
Fees as above	29	10	0
	34	10	0

The time which the Professors are to devote to their pupils will be considerably greater, in most of the Classes nearly one half more, than has hitherto been the case in the Courses delivered at the Medical Schools in London; for the subjects of the Lectures will be treated more minutely, and there will also be weekly examinations of the pupils.

It is generally admitted that to complete the education of a Physician or of a Surgeon, four years at least must be devoted. To those, therefore, whose circumstances enable them to employ that time in their professional studies, the following course is recommended; such parts of it however may be selected as best suit their particular views.

FIRST YEAR.		
CHEMISTRY	from 10	to 11
NATURAL PHILOSOPHY	1	to 2
ANATOMY	2	to 3½
DISSECTIONS with DEMONSTRATIONS, in the morning, and during the intervals of Lecture.		
BOTANY, in May, June and July	8	to 9

SECOND YEAR.		
MATERIA MEDICA and PHARMACY	8	to 9
NATURE and TREATMENT of DISEASES	9	to 10
PHYSIOLOGY	11	to 12
ANATOMY	2	to 3½
DISSECTIONS with DEMONSTRATIONS.		

THIRD YEAR.		
MATERIA MEDICA and PHARMACY	8	to 9
MIDWIFERY	10	to 11
PHYSIOLOGY	11	to 12
HOSPITAL or DISPENSARY PRACTICE	12½	to 1½
COMPARATIVE ANATOMY and ZOOLOGY	3	to 4
SURGERY	7	to 8
CLINICAL LECTURES	6	to 7

FOURTH YEAR.		
NATURE and TREATMENT of DISEASES	9	to 10
MIDWIFERY	10	to 11
ANATOMY	2	to 3½
SURGERY	7	to 8
HOSPITAL and DISPENSARY.		
CLINICAL LECTURES	6	to 7

N.B. A general outline of the Plan of the University, the Fees, &c., may be had gratis of Mr. Taylor, 30 Upper Gower Street, Bookseller and Publisher to the University.